

Attorney Docket No. 9409-3

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Freese et al.

Confirmation No.: 8346

Serial No.: 10/661,917

Examiner: Daborah Chacko Davis

Filed: September 11, 2003

Group Art Unit: 1795

For: METHODS FOR MASTERING MICROSTRUCTURES THROUGH A SUBSTRATE
USING NEGATIVE PHOTORESIST

August 12, 2008

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


APPELLANTS' REPLY BRIEF ON APPEAL UNDER 37 C.F.R. §41.41

Sir:

This Reply Brief is filed pursuant to the Examiner's Answer mailed July 23, 2008.

CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on August 12, 2008.



Susan E. Freedman

Date of Signature: August 12, 2008

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STATUS OF CLAIMS

The status of claims in Appellants' Amended Brief on Appeal Under 37 CFR §41.37 ("Amended Appeal Brief") of May 7, 2008 continues to be correct.

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GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal from Appellants' Amended Appeal Brief filed May 7, 2008 continues to be correct.

ARGUMENT

This Reply Brief is being filed to point out three (3) apparent errors in the analysis of U.S. Patent 4,965,118 to Kodera et al. ("Kodera") in the "Response to Arguments" section of the Examiner's Answer related to independent Claim 1 (Pages 8-15 of the Examiner's Answer). The present ARGUMENT section may be considered after Page 10 of Appellants' Amended Appeal Brief. The apparent errors are:

(1) Substrate: The Examiner's Answer refers to element **210** of Figure 4B, 16A and 16B of Kodera as a substrate, but also refers to element **220** of Figure 4B and Figure 16B of Kodera as a substrate (Examiner's Answer, Page 8, last 8 lines). Both elements cannot be a substrate, as they are on different sides of the structure. In fact, element **210** of Kodera is a "supporting layer" or "support layer" (Kodera Column 8, lines 40 and 44), whereas item **220** is a "roller" (Kodera Column 8, line 41). Thus, although layer **210** of Kodera may be a substrate, the roller **220** is certainly not a substrate. Accordingly, Kodera is misapplied as teaching impinging a radiation beam through a substrate that is transparent thereto, as recited in Claim 1.

(2) Scanning: Kodera Figures 16A and 16B also appear to be misinterpreted. In particular, at Pages 9 and 10 of the Examiner's Answer, Kodera Figures 16A and 16B are cited as describing scanning a laser beam during fabrication. However, Figures 16A and 16B do not relate to fabricating methods but, rather, relate to reproducing methods. Stated simply, Kodera describes a flexible optical recording medium, such as a flexible CD or flexible DVD, as stated in Column 5, lines 56-59:

FIGS. 16(a) and (b) are views showing a manner of reproduction of a flexible optical information recording medium according to this invention by using the adapter shown in FIG. 15,....

Thus, Figures 16A and 16B illustrate playback of a flexible CD or DVD, not manufacture of the CD or DVD. Figures 16A and 16B illustrate the effects of dust on the flexible optical disk when the flexible optical disk is scanned by a laser for playback. Note Kodera Column 20, lines 37-51. Accordingly, Kodera is misapplied as teaching scanning a laser beam during fabricating, as recited in Claim 1.

(3) Photoresist: Kodera does not disclose a UV hardenable photoresist. In the paragraph of the Examiner's Answer bridging Pages 9 and 10, the Examiner states that Kodera Column 7, lines 1-25 discloses the use of a UV hardenable resin as a photoresist. In fact, the complete passage cited by the Examiner, i.e., Kodera Column 6, line 65-Column 7, line 25, actually distinguishes the resin from a photoresist:

The resin mold **130** may be made up, e.g., in a manner described below.
First, a photoresist is painted onto a glass plate and exposed by using a mask having a pattern corresponding to information to be recorded, to thus make an

original block on which an uneven pattern corresponding to information to be recorded is formed after going through a development process. Resin, e.g., thermoplastic resin, thermosetting resin, ultraviolet ray hardening type resin, electron ray hardening type resin, or the like (i.e., which is not deteriorated by irradiation of ultraviolet rays or electron rays), is painted on the original block and hardened, thereafter disconnecting it from the original block, to thus form resin mold 130. Accordingly, various materials may be used for the resin mold **130** and resin of the same material as that of the resin forming the resin layer **110** may be used.

For the resin of the ultraviolet ray hardening type or the electron ray hardening type, prepolymer and oligomer monomer having an unsaturated molecular bond may be used. For example, a mixture of one kind of unsaturated polyester family, the crylate family, e.g., epoxy acrylate, urethane acrylate or polyether acrylate etc., and the methacrylate family, e.g., epoxy methacrylate, urethane methacrylate, polyether methacrylate, or polyester methacrylate, etc. or two or more kinds thereof and a monomer or functional compound having an unsaturated molecular bond, or mixture into which a sensitizer, etc. are added according to need may be used. (Emphasis added.)

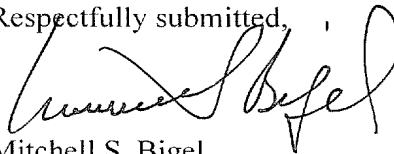
Accordingly, Koderia is misapplied as teaching a radiation beam that impinges into a negative photoresist layer to image the array of microlenses, as recited in Claim 1.

The above misinterpretations of Koderia appear to be replicated at Pages 11-21 of the Examiner's Answer, but will not be repeated herein for the sake of brevity.

The above analysis provides three (3) additional reasons why the pending claims are directed to patentable subject matter. Appellants, therefore, request reversal of the rejections of the claims for at least these three (3) additional reasons.

It is not believed that an extension of time and/or additional fee(s)-including fees for net addition of claims-are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to our Deposit Account No. 50-0220.

Respectfully submitted,



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